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the submedian perforation. Its tibial face appears to have been rounded, not angulate. The tibia presented an ascending ridge, to the face of which the ascending apophysis was applied; in the *Laelaps aquilunguis* there is no ridge, the apophysis reposing in a slight concavity. This apophysis, like the slender portion of the fibula, is composed of dense bone.

Cuvier describes at the same time a bone of which he says, "il ne serait pas impossible que l'os (fig. 39) fut la tete supérieur du péroné du pied que je viens de decrire." This piece has a shank compressed at right angles to the direction of its head, a form so unlike the fibulæ of known Dinosauria, including *Megalosaurus* and *Laelaps*, as to render its pertinence to the animal possessing the forementioned tibia, to say the least, very doubtful.

The direction of the condyle indicates the articulation of the tarsal elements to have been at a considerable angle with the shank of the leg, and that the animal was entirely plantigrade, and was unable to extend the foot in line with the lower leg. The animal's weight was no doubt shared by another tarsal bone, besides the astragalus, owing to the anterior position of the former.

In most known Dinosauria the relations of tibia and fibula are similar to those in the modern Lacertilia. It would appear then that this class existed under two ordinal modifications; the first, including *Scelidosaurus* Ow., *Hylaeosaurus* Mant., *Iguanodon* Mant., and *Hadrosaurus* Leidy, may be called the *Ортнопода*; the second including *Laelaps* Cope, and probably *Megalosaurus* Buckl., may be termed the *Гониопода*.

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*November 20th.*

The President, DR. HAYS, in the Chair.

Thirty-seven members present.

The following was offered for publication: "Descriptions of some new species of Diurnal Lepidoptera." By Tryon Reakirt.

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*November 27th.*

The President, DR. HAYS, in the Chair.

Forty-two members present.

On favorable report of the Committees the following were ordered to be published:

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**Fifth Contribution to the HERPETOLOGY of Tropical America.**

BY E. D. COPE.

The following species, previously unknown to the scientific system, are selected from the collections made at different points in Mexico by the esteemed correspondents of the Smithsonian Institution, Drs. Arthur Schott, Francis Sumichrast, Berendt, and Major.

**OPHIDIA.**

*Himantodes tenuissimus* m. sp. nov.

Vertebral series of scales small, like the rest, altogether in seventeen rows. Head broad, very obtuse, prenasals approaching each other; loreal subquadrate; preorbitals 2 or 1, postorbitals narrow, two. Superior labials, eighth, fourth and fifth, sometimes third in orbit. Frontal anterior suture longer than lateral, which converge behind; length of shield three-fourths common suture of parietals; temporals 1 or 2—3.

1866.]

Body exceedingly slender and compressed. Gastrosteges 250, anal divided, urosteges 157. Total length 2 feet 9 inches, tail 10.5 inches; length of head 5 lines.

Ashy white, with fifty transverse black light-edged spots on the body, which approach closely on the median line; on the tail 39 spots. Below, belly minutely punctulated; tail brown spotted.

The absence of the dorsal shields would indicate a wide separation of this species from the type of the genus *H. cenchoa* L., but for the existence of *H. gemmistratus* Cope, in which this series is much narrowed, approaching the ordinary form of scale.

Smithson., No. 6563; Schott, No. 903. This, with the three species following, form part of the collection made by Dr. Schott under direction of Governor Harregin, of Yucatan.

*Mesopeltis sanniolus* m. genus et spec. nov.

*Char. Gen.*—Maxillary, palatine and pterygoid bones elevated laminiform, the first bearing slender teeth to opposite middle of orbit. Cephalic shields normal; posterior genials quite small, the first pair united into an ovoid shield which is in contact with the symphyseal. No scale pores. Anal divided. Body compressed, head quite distinct, with large eye and vertical pupil. Scales smooth, without larger vertebral series.

*Char. Specif.*—Muzzle contracted, labial margin and mandible especially so, from under the orbit. Rostral not visible from above; two short nasals; loreal narrow, erect; preoculars two, very narrow, the inferior very small. Vertical, nearly twice as long as broad at its middle; a little longer than parietal suture; its outlines straight. Superior labials eight—nine, the sub-orbitals the fourth and fifth, longitudinal. Inferior labials ten, the anterior four very small, the fifth narrow, oblique. Back and belly equally rounded; scales in fifteen series. Tail cylindrical. Gastrosteges 156; urosteges 55 (approximately).

Length of head and body 11 inches.

Above light brown, with one series of small dark brown spots on the median line separated by intervals nearly equal to their diameter. A broad nuchal band continued to middle of frontal shield. Lips and sides with numerous pale brown spots; under surfaces generally with minute brown punctulations.

Smithsonian No. 6564.

This is another of the *Leptognath* forms which occur in the tropics of both worlds, but most abundant in the neotropical region. It is more distinct from *Leptognathus* D. B. than is *Tropidodipsas* Gthr.

*Conophis concolor* m. sp. nov.

The largest species of the genus: form stout, tail  $4\frac{1}{2}$  times in total length. Scales in nineteen rows, broad. Frontal region and muzzle narrow elongate, anterior to frontal shield, equal length of latter, and considerably longer than occipitals. Rostral with a strong concentric groove below, nasals distinct, elongate; loreal longer than high, parallelogrammic; preorbitals not reaching frontals; postorbitals two, rather large. Superior labials eight, eye over fourth and fifth, penultimate higher than long, last nearly as elevated. One elongate inferior temporal, the superior subdivided, (in two specimens.) Inferior labials 10. Gastrosteges  $166\frac{1}{2}$ , urosteges 72. Color above pale yellowish brown; a brown band, from the end of the muzzle through the eye, is lost a short distance behind opposite the mouth, and on one of the specimens two incomplete dotted lines extend from the sides of the frontal, and, diverging, are lost on the nape. Superior labials and rostral margined with brown below. Under surfaces light yellow.

Total length 32 inches.

Two specimens (138).

[Nov.

This species furnishes a strong degree of sulcation of the elongate posterior maxillary teeth. The sulcus is deep, and its external margins approximated, though not closed, as in the fangs of *Proteroglyphs*. The tooth has an elevated trenchant ridge on its posterior aspect.

*Coluber flavirufus* m. sp. nov.

Intermediate in characters between *C. triaspis* Cope and *C. emoryi* Bd. Gird. Scales in twenty-seven series, all rather small, four median rows only slightly carinate. Frontal, vertical and prefrontal shields longer than broad, length of former equal to common suture of parietals. Orbitals 1—2, the anterior large, nearly reaching vertical; the single loreal obliquely truncate behind, nearly triangular. Labials nine, fourth, fifth and sixth margining orbit. Orbit large, its diameter equal distance from nares to its anterior border. Two or three narrow elongate temporals between labials and parietal, anteriorly declined and in contact with postoculars. Postgeneials very slender, separated by scales, nearly equal pregeneials; inferior labials 13. Tail slender,  $4\frac{3}{5}$  times in total length. Length of a young individual 1 foot 10 inches.

Ground-color yellow, below unspotted, above marked with brick-red spots, broadly brown margined. There are from 40 to 47 of these to opposite vent, some of them divided and alternating, and a row of alternating spots on the sides; alternating with the latter an irregular series of still smaller markings. A longitudinal included yellow line on the nape; a similar brown mark on frontal plate, and transverse band on prefrontals; other head markings few and broken, including a narrow line from orbit to canthus oris.

Smithsonian, No. 6566. Yucatan.

This species has been found also at Tabasco by Dr. Berendt, and sent to the Smithsonian Institution. This specimen has the orbit a little smaller, three instead of two oblique temporals, and 47 dorsal spots.

*Bascanion suboculare* sp. nov.

Gastrosteges 200, anal  $\frac{1}{2}$ , urosteges 111.

Scales in seventeen longitudinal rows, the two external larger, the median half their width. Tail three and five-sixths times in total length. Muzzle short, rostral plate little visible above. Orbit moderate; its longitudinal diameter equal transverse width of superciliary plate. Frontal plate narrow, sides concave, length equal from its anterior margin to end of muzzle, and greater than length of common occipital suture. Internasals of nearly equal diameters; prefrontals bent down on loreal region. Nasals large, loreal longitudinal; preoculars two, inferior minute, superior not reaching frontal, prolonged backwards over orbit, and with strong canthal ridge. Postoculars two; occipitals not emarginate behind. Superior labials seven, the fourth very large, supporting not only the orbit, but the pre- and postoculars; fifth subtriangular apex truncate by inferior temporal; sixth and seventh large and nearly equal, longitudinal. Temporals in a superior and inferior row of 3, the upper extending to end of occipitals, the lower to last labial. Pregeneials little longer than broad, much shorter than postgeneials. Inferior labials nine, the fifth largest, the eighth longitudinal, narrow.

Length of head and body 64 in. 5 lin.; of tail 22 in. 6 lin.

*Habitat*.—Central Guatemala; specimen from between Coban and Clusec. Henry Hague, Collector.

This large species belongs to the section of the genus characterized by two preocular plates which embraces *B. constrictor* Linn., *B. flaviventris* Say, *B. vetustum* Bd. Gird., and *B. anthicum* Cope. From all these it differs in the arrangement of the labial and temporal shields, and the greater number of abdominal and caudal scuta.

1866.]

*Scolecophis scytalinus* sp. nov.

Scales in seventeen rows, each nearly as broad as long, the vertebral series larger than any other, but equal on anterior seventh of body. Head little distinct, obtuse, muzzle broad; frontal plate broad, anterior suture one-fourth longer than lateral or posterior, length greater than common suture of occipitals. Superciliary small, one narrow preocular, two subquadrate postoculars. Loreal subquadrate, nasals distinct; rostral slightly produced backwards above, internasals one-fourth size of prefrontals. Temporals 2—2 or 3 anterior long. Superior labials eight, first and second much separated by prenasal, fourth and fifth below orbit, seventh and eighth elongate. Inferior labials eight, two anterior in usual contact, postgenaeals shorter than pregenaeals. Gastrosteges 207, anal 1, urosteges 7, entire, 71 paired.

Total length 23 in., of tail 4 in. 9 lin.

Color above red, each scale tipped with blackish; a broad black collar, ten scales wide, not extending on the gastrosteges. Head yellow above, front of head black to postoculars and anterior part of occipitals, tipping chin.

Museum Smithsonian, No. 6581. Collected by Dr. Berendt near Tabasco, Mexico.

The genus was defined by the author in the Proceedings of Academy for 1861 to embrace *S. atrocinctus* D. B. and *S. zonatus* Hallowell, which differ from *Tantilla* in the presence of the loreal plate, and from *Erythrolamprus* in the entirety of the anal shield. The present discovery gives further evidence of the stability of this form. *Rhadinæa annulata* (*Enicognathus* Dum., Bibr.) was procured by Dr. Berendt at the same place.

*Tantilla calamarina* sp. nov.

Scales in fifteen longitudinal rows, head flat, not distinguished; tail contained six and three-fifth times in the total length. Pre- and postorbitals one each, small; superior labials six, third and fourth bounding orbit, and pre- and postorbital scales. Superciliaries small. Prefrontals descending to contact with second labial; nasals large; internasals narrow; frontal longer than broad, angulated in front, occipitals elongate, embracing a scale in their emargination. Temporals 1—1, the anterior not in contact with the postocular. Inferior labials seven, fourth largest, the first widely separated from each other by contact of pregenaeals and symphyseal; pregenaeals longer than broad, postgenaeals minute.

Length 7 in. 7 lin.; of tail 1 in. 1 l.

Color brown, end of muzzle yellow, lower surfaces and occipital region pale. Sides and top of head and three longitudinal bands blackish; the latter extend on the common line of the third and fourth, and on the vertebral series of scales.

Allied to the *T. planiceps* Blainville.

Museum Smithsonian, No. 6600; sent in a valuable collection from Guadalupe, Mexico, by I. I. Major.

*Typhlops basimaculatus* sp. nov.

Preocular plate present, single, a little wider than ocular; nostril situate on a suture which extends to the rostral. Rostral narrow, not angulated nor prominent. Eye invisible, ocular plate extending to labials. Scales in eighteen longitudinal rows. Superior labials four. Body compressed behind, tail narrowed, obtuse, three-fourths transverse diameter of former. Head depressed, muzzle from above rounded truncate.

Color yellow, scales of seven dorsal rows with a large brown spot at base, which is visible through superjacent scales; pattern resulting, reticulate. Top of head and end of tail immaculate.

Total length 12 in. 3 l.; vertical diameter at posterior third, 3 lin.

*Habitat*.—Cordova and Orizaba, Mexico. Prof. Sumichrast says, it excavates galleries in the earth; is found more rarely under stones.

[Nov.

This species is nearest the *T. coecatus* Jan., which is found on the Gold Coast, West Africa.

Museum Smithsonian, No. 6602.

## SAURIA.

*Plistodon sumichrasti* sp. nov.

No freno-nasal plate; scales of body in twenty-eight longitudinal rows, the laterals not oblique. Inner posterior toe shorter than the fourth. The limbs being extended, the anterior digits reach the base of the external posterior. Two extended transverse plates behind each parietal; exterior to the latter a large oblique temporal separated from labials by a trapezoid plate. Superior labials nine, eight much largest. Auricular meatus two-thirds eye slit. Four supraorbitals. Interparietal narrower than frontal, shorter than from anterior angle, latter to end muzzle acuminate anteriorly; frontonasals longitudinal, largely in contact, internasal transverse, well separated from rostral by supranasals. Prefrenal higher than long.

Grayish olive with an indistinct blackish band on each side commencing at the ear; top of head light yellowish brown; below pale. End of muzzle to vent 3 in. 7 lin.; to fore arm 1 in. 3 l.; length posterior limb 18.5 lines.

This species is allied to the *P. marginatus* Hallow., of Japan, and the *P. fasciatus* of the United States. It is the second species now known in Mexico; the other, *P. lynce* Weigmann, is smaller, and in form and color like a Mabuia.

Museum Smithsonian, No. 6601. Orizava, F. Sumichrast.

*Diploglossus chalybaeus* sp. nov.

Thirty-four rows of scales on the body, those of the body rectangularly arranged, sixteen near the base of the tail; those of the tail with sixteen striæ, the median of which is raised so as to give an angulated appearance. Scales of the posterior part of the body with eight and nine striæ, those of the anterior regions smooth. Internasal broader than long, angulation front; frontal truncate anteriorly, convex and broader posteriorly; frontoparietals small, separated by their width. Interparietal nearly or quite as large as parietal, succeeded by a median plate. Five supraorbitals, marginals  $\frac{3}{8}$ ; frenal and prefrenal touching; or frenonasal above postnasal. Limbs extended along the sides, separated by the length of the hind limb.

Length of larger specimens from end of muzzle to vent 3.5 in.; do. smaller specimen 2.5 in.; vent to end of tail of same 3.5 in.

Sides of head and body with limbs, black; sides of head and neck with some small greenish spots. Dorsal region for a width of seven and two half rows of scales olive brown, the edges of each row blackish and forming narrow imperfect lines; top of head spotless; below pale greenish.

*Habitat*.—Mountains of Orizava, Vera Cruz, at an elevation of from 4000 to 6000 feet; Prof. F. Sumichrast, Museum Smithsonian, No. 6603.

*Gerrhonotus ophiurus* sp. nov.

This species belongs to the subtype of the genus represented by *G. tessellatus*, but differs from the latter in the much longer tail and shorter limbs, and different arrangement of plates on the head, viz.:

Group I. Three pairs of supranasals, with azygus plate between first pair; scales  $\frac{16}{12}$ .

One preocular, two loreals, posterior canthal descending to labials. Legs separated by length of hind leg. Belly immaculate; tail shorter..... ventralis.

Two preoculars, two loreals, posterior canthal descending to labials. Tail moderate; extended legs separated by length of fore arm; brown above with ten cross bands; belly black spotted..... tessellatus.

1866.]

Two præoculars, three loreals, not separated by the single posterior canthal; prenasal in contact with first labial. Tail 2.75 times head and body; extended limbs separated by length of humerus; red with ten light cross bands, v-shaped backwards; belly not black spotted..... ophiurus.

Three loreals, posterior canthal divided, each half corresponding to a loreal; prenasal separated from contact with first labial; tail twice head and body. Light olive with seven or eight dark cross bars; below yellowish marbled with olive.. infernalis.

The first species is *Pterogasterus ventralis* Peale and Green, Journal Academy, vi. 233.

The *G. ophiurus* is 13 inches in length.

*Habitat*.—Orizava, Mexico, Prof. F. Sumichrast.

*Xenosaurus grandis* Gray, *Cubina grandis* Gray, Ann. Magaz. Nat. Hist. xviii. 270. *Xenosaurus fasciatus* Peters, Monatsberichte Berlin Acad.

The genus *Xenosaurus*, first defined by the able Zoologist of the University of Berlin, is of much interest. Prof. Peters referred it with doubt to the Helodermidæ, and in my system of the Sauria,\* I have followed his suggestion, not having had the opportunity of studying its skeleton. This having been afforded by the specimens sent to the Smithsonian Institution by F. Sumichrast, my conclusion regarding it is as follows: It is a Diplogloss in all points, presenting the anomaly of very strong inferior frontal crests, which fail of under-arching the olfactory lobes of the brain, approaching in this respect equally the Geconidæ and Varanidæ. The anterior limb of the mesosternum is shorter than in most of the Diploglossa. Parietal fontanelle distinct. The *Xenosauridæ* will stand in the system between the Gerrhonotidæ and Helodermidæ with the following diagnosis:

*No premaxillary foramen, dentition strictly pleurodont, teeth with elongate cylindrical shanks attached on inside of alveolar parapet; head tubercularly scaled, temporal fossa not over-roofed by dermoossification; mesosternum cruciform.*

While the characters of the Helodermidæ are:

*No premaxillary foramen; teeth with short dilated bases, obliquely ankylosed; head tubercularly scaled, temporal fossa overarched by dermoossification; mesosternum without lateral limbs, longitudinal.*

The supraorbital ossification in *Xenosaurus* is a triangular piece over the anterior third of the orbit, attached to the prefrontal bone, not as in the other Diploglossa, continued to the postfrontal. The ball of the eye is defined by fourteen flexible sclerotic plates in front, whose contact is valvate except round the pupil, where each one dilates and overlaps the next, forming an imbricate circle.

*Sceloporus heterurus* sp. nov.

Four and five rows of supraorbitals besides the internal and external marginals. But little difference in size of dorsal, lateral and abdominal scales, the first with strong keel and mucro, not serrate, in 45 transverse rows between interscapular and sacral regions. Caudal scales much larger, with elevated keels continued as ridges, in eighteen longitudinal rows 8 lines beyond vent. Head scales smooth, the anterior frontal not divided; occipitals distinct. Some large marginal scales in front of auricular meatus. Femoral pores seventeen.

Color bright leek green with numerous delicate brown lines directed obliquely forward towards the back and there turning backwards; a narrow line ascending from arm to interscapular region receives a longitudinal one from orbit; a longitudinal line in front of thigh.

Total length 6 in.; from muzzle to vent 2 in. 6 l.

\* Proceedings Academy, 1864, 228.

Museum Smithsonian, No. 6589. Received from Mirador, near Vera Cruz, from Dr. Charles Sartorius.

This species is near the *Sc. grammicus* Wiegmann, *Herpetologia Mexicana*, the type of which I consider to be sp. No. 641, *Mus. Berolinense*. In it there are but 38 rows of dorsal scales, three rows of supraorbitals, and no auricular marginal series.

#### BATRACHIA.

*Lithodytes rhodopis* sp. nov.

Near the *L. griseus* (Hallow.) of the same region, but of a more elongate form; the head narrower with smaller orbits and larger membranum tympani; toes more elongate, and with smaller dilatations; there are peculiar dorsal folds; the groin and femur are also not marbled as in the *L. griseus*.

Greatest breadth cranium one and two-fifth times between tympanum and end coccyx, equal between former and end of muzzle. Diameter of orbit equal from same to exterior nares, 1.5 times to equal longest or vertical diameter of tympanum (2 to 2.5 in *L. griseus*;) largest in young individuals. Vomerine series transverse, posterior well separated, not extending outside of line of interior margin of nares. Canthus rostralis well marked. A plica from posterior angle of eye extends to the anterior dorsal region nearly meeting its fellow; nearly opposite their termini a dorso lateral fold originates and passes to the line of the ilia; a third extends from over tympanum to near groin: generally minutely rugose above. Heel to considerably beyond muzzle. Sole and fourth digit, 1.3 to 1.5 width of cranium; metatarsals with series of small tubercles, and with a distinct inner cuneiform process; a slight web between proximal phalanges. Anterior digits without dilatations. End of forearm to end of muzzle. End muzzle to end coccyx 1 in. 7 lin. Same to posterior margin tympanum 7.5 lines. Hinder limb from end ilium to heel 1 in. 7.5 lin., foot 1 in. 4 lin.

Above dark gray, shaded with pink; a darker pale edged bar between ocular fissures, a longitudinal blotch of the same on top of muzzle; back with indistinct darker markings. Side of muzzle and head in spots on labial margin and cross-bands on limbs with sole of whole foot darker; a decurved black line from nostril over tympanum above humerus. Concealed faces of limbs and margin of mandible brown punctulate; below generally yellowish white. In another specimen there is no interorbital cross-bands, but two longitudinal stripes from muzzle to nape, and two from orbits converging on coccyx, and embracing a dark shade. Young, clay color with pink shades to rose color.

*Habitat*.—Vera Cruz, at Orizava and Cordova. Prof. Sumichrast's Collection.

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#### Ont he Agricultural Ant of Texas. (*MYRMICA MOLEFACIENS*.)

BY GIDEON LINCECUM.

This is No. 2 of my catalogue—is inodorous, having no smell of formic acid. It is a large reddish brown ant, dwells in the ground, is a farmer, lives in communities, which are often very populous, and controlled by a perfect government; there are no idlers amongst them. They build paved cities, construct roads, and sustain a large military force.

When one of the young queens, or mother ants, comes to maturity, and has received the embraces of the male ant, who immediately dies, she goes out alone, selects a location and goes rapidly to work excavating a hole in the ground, digging and carrying out the dirt with her mouth. As soon as she has progressed far enough for her wings to strike against the sides of the hole, she deliberately cuts them off. She now, without further obstruction, continues to deepen the hole to the depth of 6 or 7 inches, when she widens the

1866.]